

ABSTRACT

The invention provides copper-based catalysts containing low concentrations of platinum group metals. In some embodiments, the catalysts of the invention have an oxide support on which is dispersed copper or an oxide thereof, a platinum group metal and a reducible metal oxide. In other embodiments, the catalysts have a cerium oxide support on which is dispersed copper or an oxide thereof and a platinum group metal. In one aspect, the catalysts can be employed as effective water-gas shift reaction catalyst that are stable to steam exposure at lower temperatures, e.g., below 220 °C. The invention also provides apparatus such as fuel processors that supply hydrogen to a fuel cell, that incorporate the catalysts.